Fall 2002

Finding the Balance

A Publication of the Indiana Land Resources Council

ILRC: Provides Tools to Solve the Land Use Puzzle

By Lt. Governor Joe Kernan, Chair, Indiana Land Resources Council

Geographic Information Systems (GIS) technology has the potential to revolutionize our ability to inventory and manage land information.

So much potential, in fact, that in 1999 the Hoosier Farmland Preservation Task Force made a recommendation to Governor O'Bannon and the state legislature to *update land classifications using Geographic Information Systems (GIS)*.

In this issue of ***Finding the Balance***, Jill Saligoe-Simmel, chair of the Indiana Geographic Information Council, explains the technology and updates us on what the council, in partnership with the Indiana Land Resources Council (ILRC), is doing to make GIS a useful tool at the local level (pages 2-3).

This issue also features a collaborative effort between the Center for Urban Policy and the Environment at I.U.P.U.I. and the ILRC to analyze land cover change over the last 15 years (page 4).

As we continue to be challenged with the complexity of land use issues, it is important to emphasize the diversity of perspectives that must be considered in this debate. This is why ***Finding the Balance*** is an important tool to highlight local land use efforts that may serve as models for local communities to consider. In this issue, ILRC member Mary McConnell shares her observations and perspectives as an environmental advocate on land use (pages 4 and 5).

Local land use planning advocates will find the article on Wayne County's Resource Inventory Council interesting and informative — yet another example of a county level approach to information management (see page 5).

Finally, as we look to the future, I am excited about a partnership that is working on a land use training and education program.

Lt. Governor Joe Kernan

Representatives from the ILRC, Purdue University Cooperative Extension Service, Ball State University, the Indiana Planners Association and Indiana Farm Bureau Inc. are developing a program to support and assist local plan commission members and officials.

Workshops will be scheduled in northern, central and southern Indiana. We also will utilize two-way video technology to provide quarterly land use news and update sessions at multiple sites throughout the state. This program will start in the spring of 2003. Specific information will be posted early next year on our training calendar at ***www.in.gov/oca/ilrc***.

Local leadership will play such a vital role if Indiana communities are to be successful in balancing sustainable economic and community growth — while protecting the environmental and historical characteristics that define the places we call home.

Thank you for looking to the Indiana Land Resources Council for assistance. I appreciate you helping us to create a shared vision for Indiana's future.

Working Together to Build the IndianaMap

By Jill Saligoe-Simmel, Ph.D., Chair, Indiana Geographic Information Council

Whether talking about land use, emergency management, economic development, the environment, and much, much more, decision-makers at all levels field one question more than any other – *How does that affect me?*

Geographic Information Systems (GIS), a computer mapping and analysis tool, has made that question easy to answer and the answers easy to understand. GIS is a tool used in data collection, storage, mapping, display and analysis. While GIS is the tool that powers the system, a Geographic Information (GI) Infrastructure is the fuel that powers the system.

The Indiana Geographic Information Council, Inc. is leading the planning of Indiana's GI Infrastructure by cooperating with local, state and federal government, public and private organizations, and universities across the state. The effort, referred to as Indiana's I-Team Initiative, will develop Indiana's GIS framework, or base map, use common data standards, and provide mechanisms for easy data access (Figure 1).

The results of these efforts – *IndianaMap* – will help to provide integrated information for analysis of issues and decision-making at federal, state, local, and tribal levels of government. It also will provide a common frame of reference for communicating information and concepts of complex issues to citizens.

> Geographic Information Systems (GIS) technology has the potential to revolutionize our ability to inventory and manage land information.
>
> *— Lt. Governor Joe Kernan*

What is unique about the I-Teams initiatives is they bring all relevant and affected providers and users of data together around the same table,

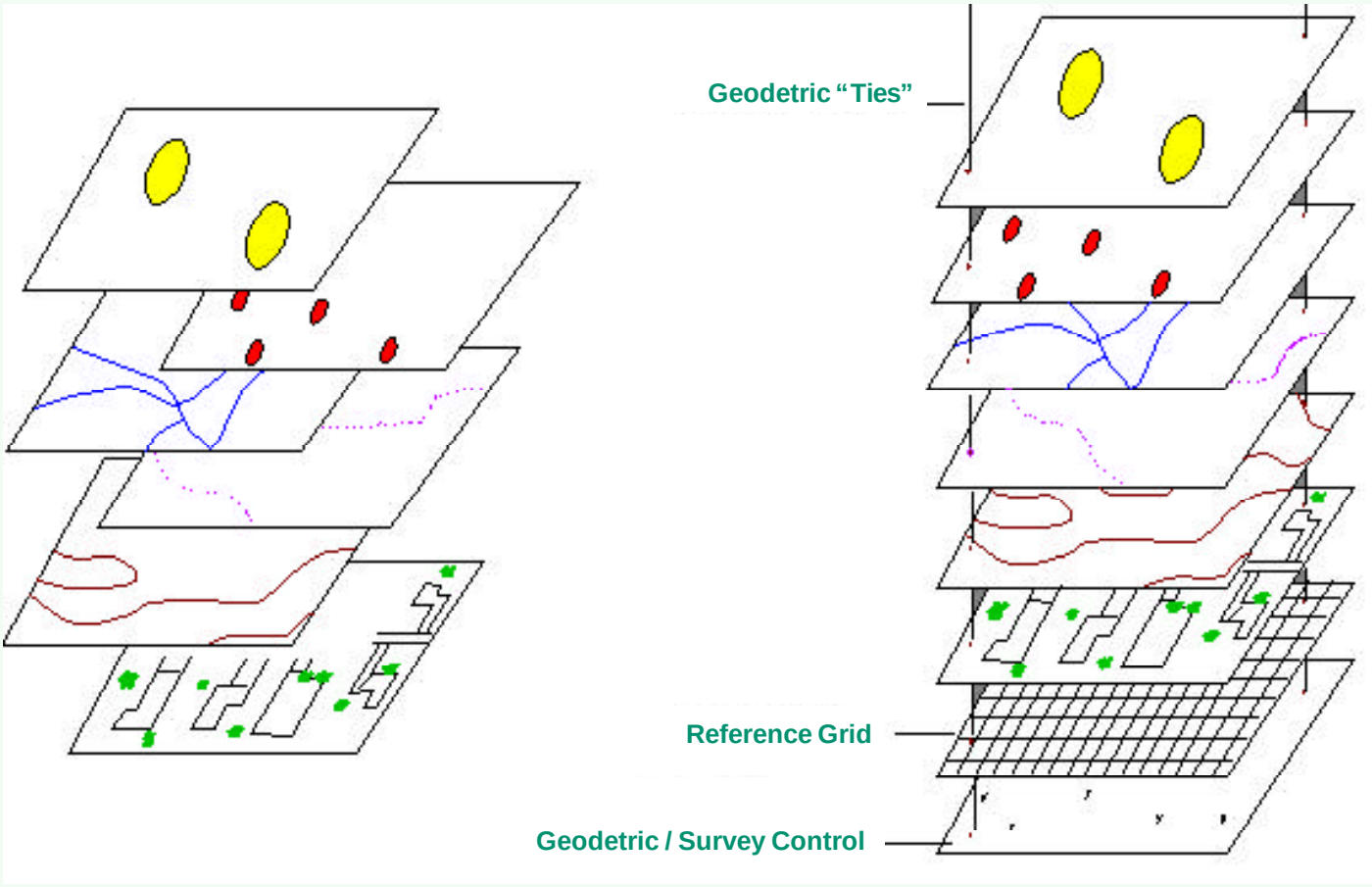


Figure 1. Indiana's I-Team will develop a GI Infrastructure where map layers "line up." Without a continuous coordinate system or appropriate control, the layers will not overlay correctly. With a continuous coordinate system and appropriate control, the layers will overlay correctly.

FAST FACTS

According to a recent study from the American Farmland Trust, America's best farmland is falling fastest to development. The full report titled ***Farming on the Edge: Sprawling Development Threatens America's Best Farmland*** can be found at ***www.farmland.org/farmingontheedge***. Report highlights include:

EVERY SINGLE MINUTE OF EVERY DAY, AMERICA LOSES TWO ACRES OF FARMLAND. From 1992-1997, more than 6 million acres of agricultural land (the size of Maryland) were converted to developed land.

WE LOST FARM AND RANCH LAND 51 PERCENT FASTER IN THE 90S THAN IN THE 80S. The rate of loss for 1992-1997, 1.2 million acres per year, was 51 percent higher than from 1982-1992.

WE'RE LOSING OUR BEST LAND (MOST FERTILE AND PRODUCTIVE) THE FASTEST. The rate of conversion of prime land was 30 percent faster, proportionally, than the rate for non-prime rural land from 1992-1997. This results in marginal land, which requires more resources like water, being put into production.

WASTEFUL LAND USE IS THE PROBLEM, NOT GROWTH ITSELF. From 1982-1997, U.S. population grew by 17 percent, while urbanized land grew by 47 percent. Over the past 20 years, the acreage per person for new housing almost doubled and since 1994, 10+ acre housing lots have accounted for 55 percent of the land developed.

shifting the balance of power for decision making downward from the federal to the state and local level. I-Teams are voluntary, open, flexible and adaptive collaborations for sharing capital planning, building, use and financing of spatial data. They align and optimize dependencies, helping to develop standards and implement specifications by consensus among I-Teams.

The I-Team Initiative addresses the institutional and financial barriers to development of the National Spatial Data Infrastructure at federal, state and local levels. It aims to offer a coherent set of institutional and financial incentives to make it easier for all levels of government and the private sector to collaborate in the building of the next generation of framework data.

With seven layers of framework for the common base, the GI Infrastructure adheres to the principle of "build once, use many times" (figure 2). By aligning participant needs and resources, Indiana's I-Team Initiative will help all levels of government and the private sector to save money, migrate from existing legacy systems, make better use of existing resources, and develop the business case for additional public and private resources.

IndianaMap Phase 1 will begin the process by providing a statewide, locally focused GI infrastructure plan and a plan for framework completion. Status maps linked to framework data information and contact information will be web-enabled, providing an interactive visual display and retrieval of local level GIS status and information on who is doing what with GIS. This will provide the first comprehensive level of access to local GI information through the *IndianaMap* portal.

The Indiana Land Resources Council is supporting Phase 1 of the *IndianaMap*, a 10-month project to benchmark local-level Indiana GIS, and analyze gaps in GIS data and information. This information will be used to plan for a reliable, consistent GI infrastructure, with broad dissemination of the information gained from the project.

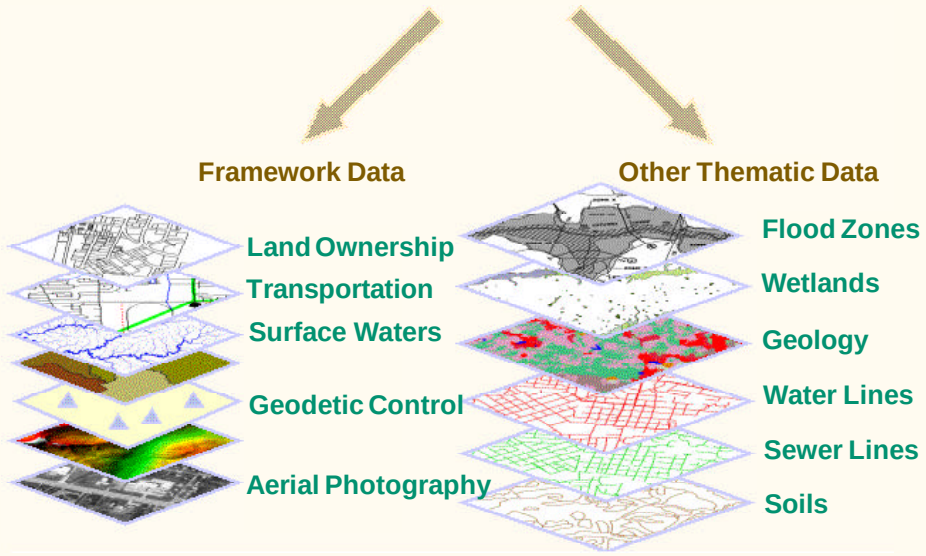


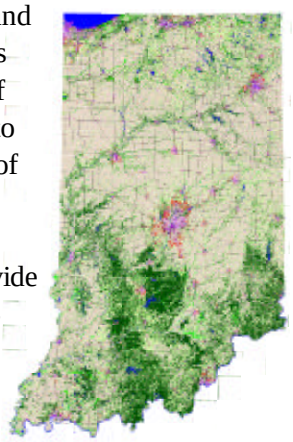
Figure 2. Everything fits together when other data are built on top of a common base of framework data.

As the official statewide GIS coordinating body for Indiana, the Indiana Geographic Information Council, Inc. (IGIC) comprises the "core" of Indiana's I-Team, providing overall direction and leadership for the initiative. IGIC is comprised of a diverse group of professionals representing 12 major stakeholder sectors in Indiana (cities and towns, counties, state, federal, university, private, not-for-profit, GIS service providers, surveyors, regional planning, regional GIS coordinating bodies, and utilities). Visit the Indiana GIS Initiative Web site for more information at ***www.in.gov/ingisi***.

Land Cover Assessment

By Jamie Palmer, AICP, The Center for Urban and the Environment at IUPUI

The Indiana Land Resources Council (ILRC) is collaborating with researchers from the School of Public and Environmental Affairs and the Department of Geography at IUPUI to complete an analysis of land cover change in Indiana.



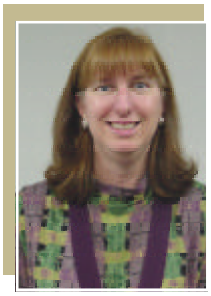
Indiana — Land Cover 2001

The study will provide state and local policy-makers with important information about the extent and location of land cover/land use changes over the last 15 years. It uses remote sensing technology and time series satellite imagery to estimate land cover in 1985, 1993 and 2001, as well as land cover change for 1985-1993, 1993-2001 and 1985-2001.

The picture on the left was taken using the remote sensing technology and depicts land cover in Indiana in 2001. Land cover is interpreted using a 12-category scheme: high density development, low density development, bare soil, excavations, forest, grassland (herbaceous), agriculture, wetland forest, other wetland vegetation, bare wetlands, water, and major roads.

A technical report documenting the project and resulting spatial (map) and tabular (spreadsheet) data is expected by the end of the year. Check the ILRC Web site for more updates on the Land Cover Assessment project. The address is ***www.in.gov/ilrc***.

A Birds-Eye View of Indiana



By Mary McConnell, ILRC Member and State Director of the Indiana Chapter of The Nature Conservancy

The short trip to Chicago in a small, cramped commercial airplane may seem like torture to some, but for me it offers the opportunity to get in touch with the Indiana landscape.

Sitting glued to the window I easily follow familiar landmarks for the short trip north. First to come into view is I-65, which we follow to Lafayette. There I pick up the Tippecanoe River at its confluence with the Wabash. Following the Tippe north, I immediately see Lakes Shafer and Freeman in the distance. These dammed reservoirs outside of Monticello dominate the landscape. To my delight, the pilot keeps the river in view as we continue north enabling me to keep my bearings.

Flat, agriculturally dominated lands layed out in perfect one-mile grids characterize northwestern Indiana. The government surveyors did a remarkable job in the mid 1800s and county roads seemed destined to be constructed wherever a section line was demarcated. Thirty years ago, it would be common to see one house per square mile in this part of the state. Today as I counted, I easily saw eight to 10 homes per square mile, each carved out of a little parcel of farmland, nicely spaced every quarter mile or so, each with a driveway cut onto the county road, and each with a cornfield as their back yard.

A blob of green soon appeared and I immediately recognize Jasper-Pulaski State Fish & Wildlife area. This remarkable property hosts one of the most amazing natural events occurring anywhere in the world. The eastern populations of sandhill cranes utilize the property as a staging area in late fall. About 12,000 of these magnificent 4-foot tall birds congregate each evening on a tiny parcel of land at Jasper-Pulaski from mid-October through December.

Alas, it is not late fall and I see no birds. But I do see the Kankakee River, and I see

ILRC EXECUTIVE DIRECTOR
Joe Tutterrow

EDITOR
Maren McGrane,
mmcgrane@commerce.state.in.us

INDIANA LAND RESOURCES COUNCIL
150 W. Market St.
Suite 414
Indianapolis, IN 46204

PHONE
317.234.5263

FAX
317.232.1362

WEB SITE
www.in.gov/oca/ilrc

the distinctive smoke stacks of NiSource's Schaeffer Generating Station and the wonderful black oak sand savanna nature preserve that is adjacent to the river. This grand river was at one time in history a sluggish, meandering maze of wetlands, oxbow lakes and upland savannas. Today, it is a straight channel that funnels water as quickly as possible to Illinois. You can't miss the distinctive "straight as an arrow" profile of the Kankakee when seen from above.

As the plane heads into Chicago, we fly over the industrial northwest region of Indiana. Lake Michigan soon appears and my eyes follow the coastline to the Indiana Dunes National Lakeshore, the green island that is one of the jewels of the National Park System. Burns Harbor is easily recognizable, as is the Port of Indiana.

I strain to find Ivanhoe Nature Preserve, an 80-acre treasure in the heart of Gary. The unique linear sand dunes interspersed with wetland swales are like counting the rings of a tree and readily recognizable from the air. I wonder how many people fly over this wonderful area and have no idea of its exceptional ecological significance.

I could fly just about anywhere in Indiana and recognize a river, body of water, landform, landmark, road or city. During these trips I recognize the real importance for land use planning, natural areas protection, farmland preservation and related activities in Indiana. The Indiana Land Resources Council is helping us tackle some of the tough issues that communities all over the state are facing. Together, we really can make a difference in Indiana.

Did You Know?

Wayne County's Resource Inventory Council

The Wayne County Resource Inventory Council (RIC) was developed to maintain a current inventory of land within the county. The RIC provides accurate data for planning and land use decision-making. The inventory maps are used in many ways, specifically to locate old dump sites, predict groundwater availability and determine general soil types. The data contained in the maps is helpful for planning subdivisions, commercial and industrial sites and locating utility pathways.

The RIC is comprised of representatives from governmental, commercial, agricultural, environmental and industrial organizations. For more information on the RIC's land inventory, visit their Web site at: ***www.co.wayne.in.us/ric***.

Mark Your Calendars for . . . Upcoming Training Seminars on Land Resource Management

Upcoming seminars, sponsored by The Polis Center, provide a wealth of information on land resource tools and management:

GIS Seminar Series - The Polis Center and the Indiana Geographic Information Council

- November 19, 2002: Introduction to Metadata Use and Development.
- December 17, 2002: GIS as a tool for litigation.

Both classes will be held from 1 to 4 p.m. at University College, UL1126, 755 West Michigan Street, Indianapolis, IN, 46202. The cost for each class is $30.00.

The Polis Center GIS Training Series

- November 15, 2002 – Techniques for Effective Map Design. Cost: $195
- November 4-5, 2002 – Introduction to ArcView GIS. Cost: $495
- November 24-27, 2002 – Advanced ArcView. Cost: $895
- December 12-13, 2002 – Intro to ArcGIS for ArcView and ArcInfo I. Cost: $595

All courses are held from 8:30 a.m. to 4:30 p.m. at 1200 Waterway Boulevard, Indianapolis, IN, 46229. Call (317) 278-2582 for registration information.